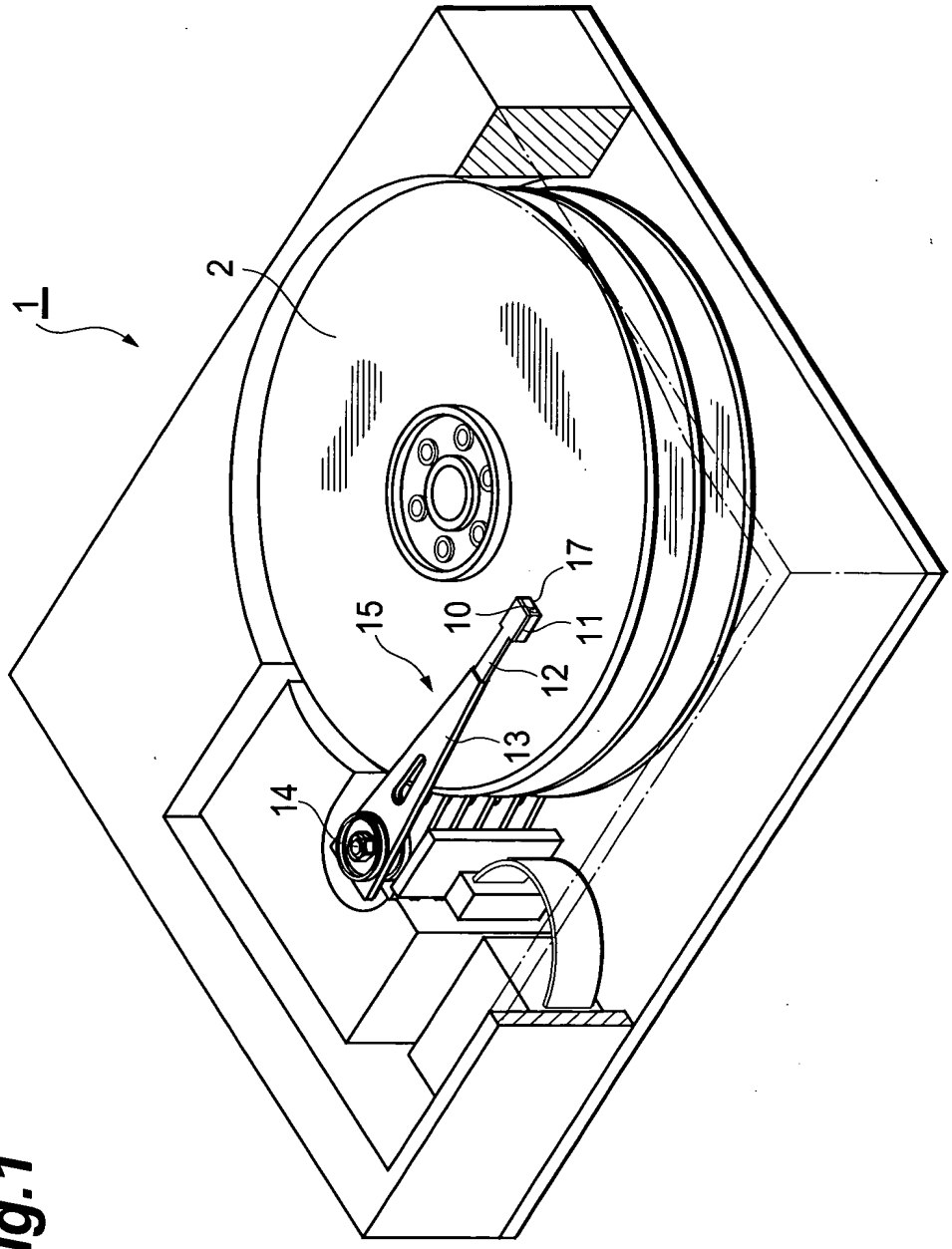
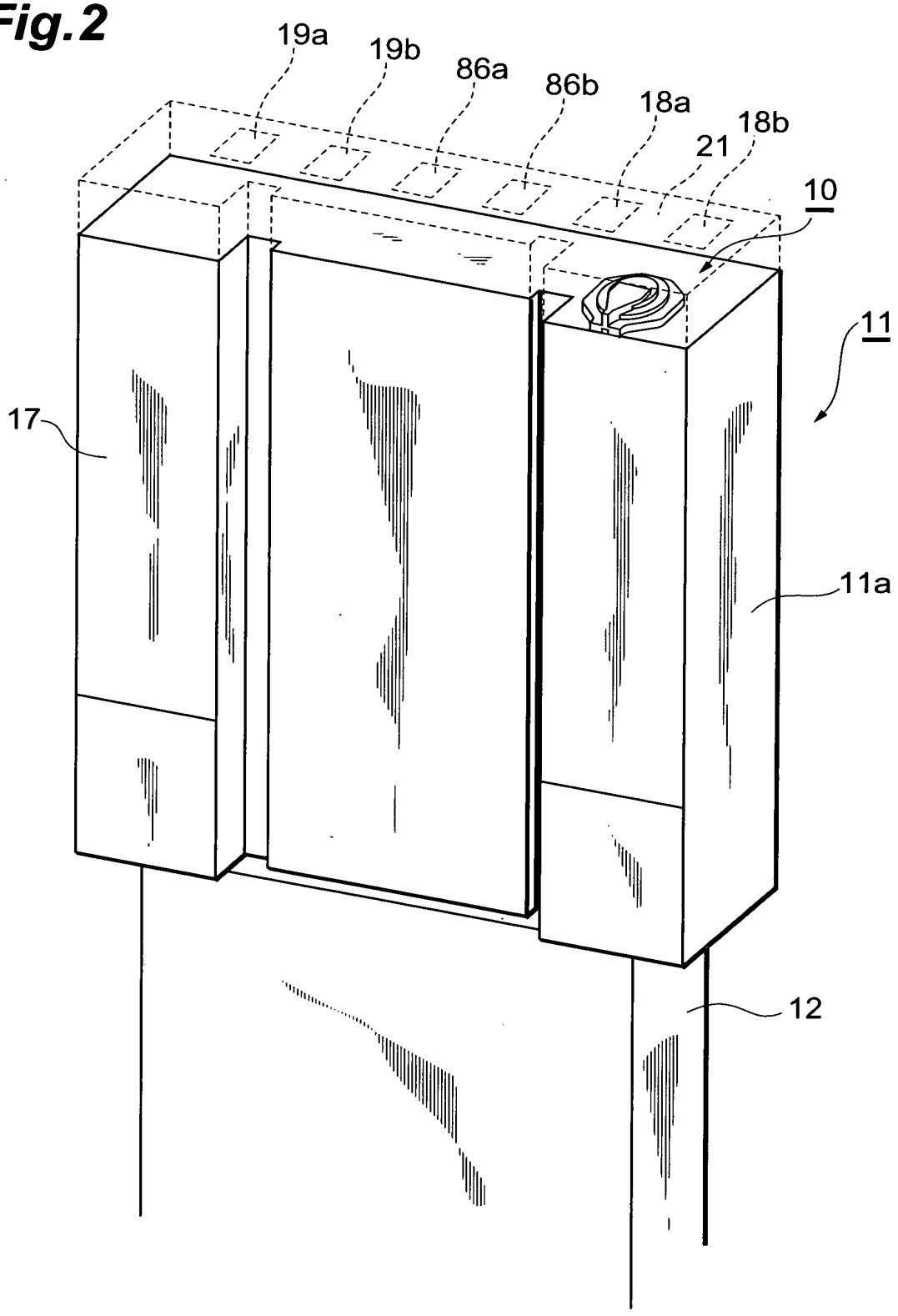
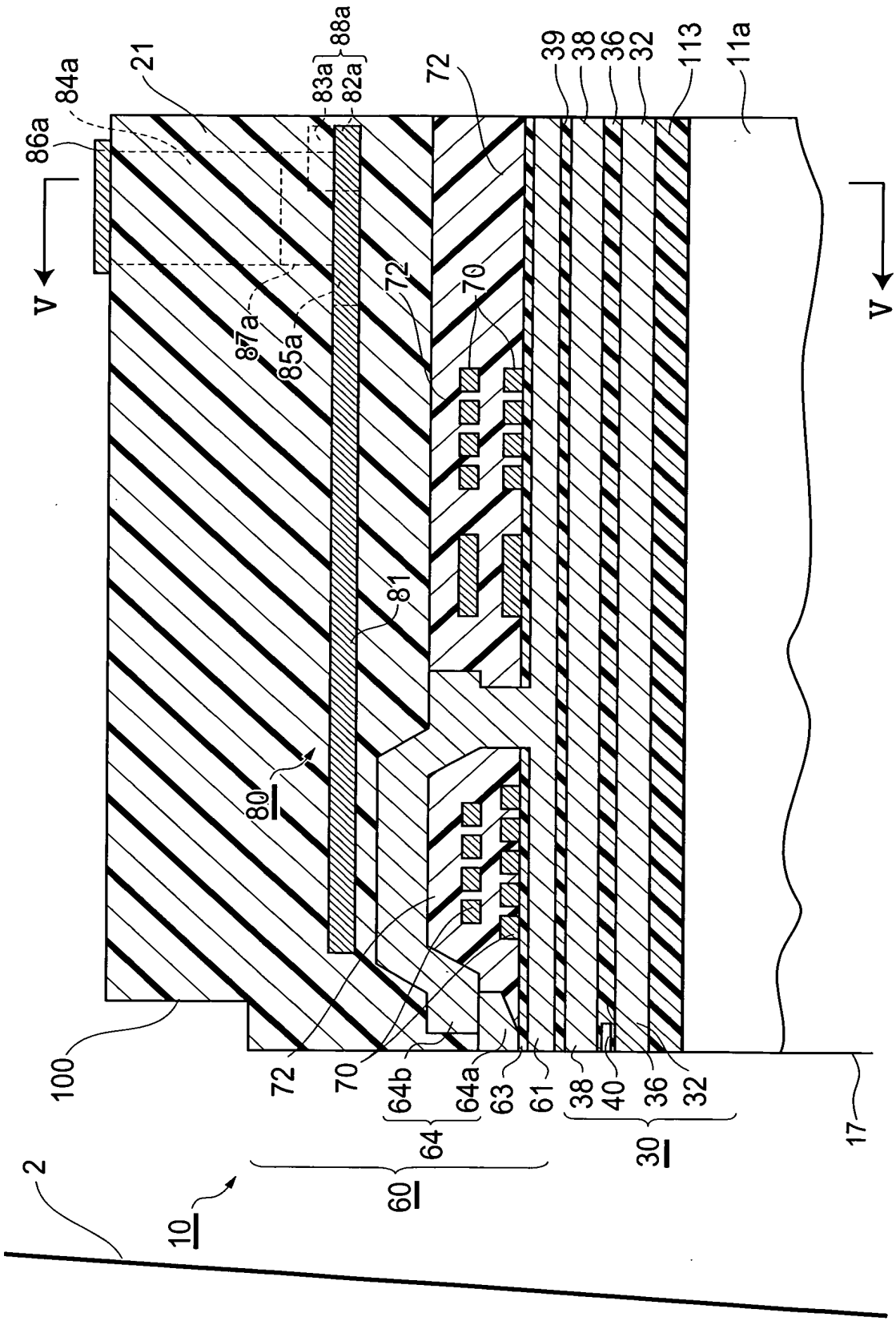


Fig.1

Fig.2

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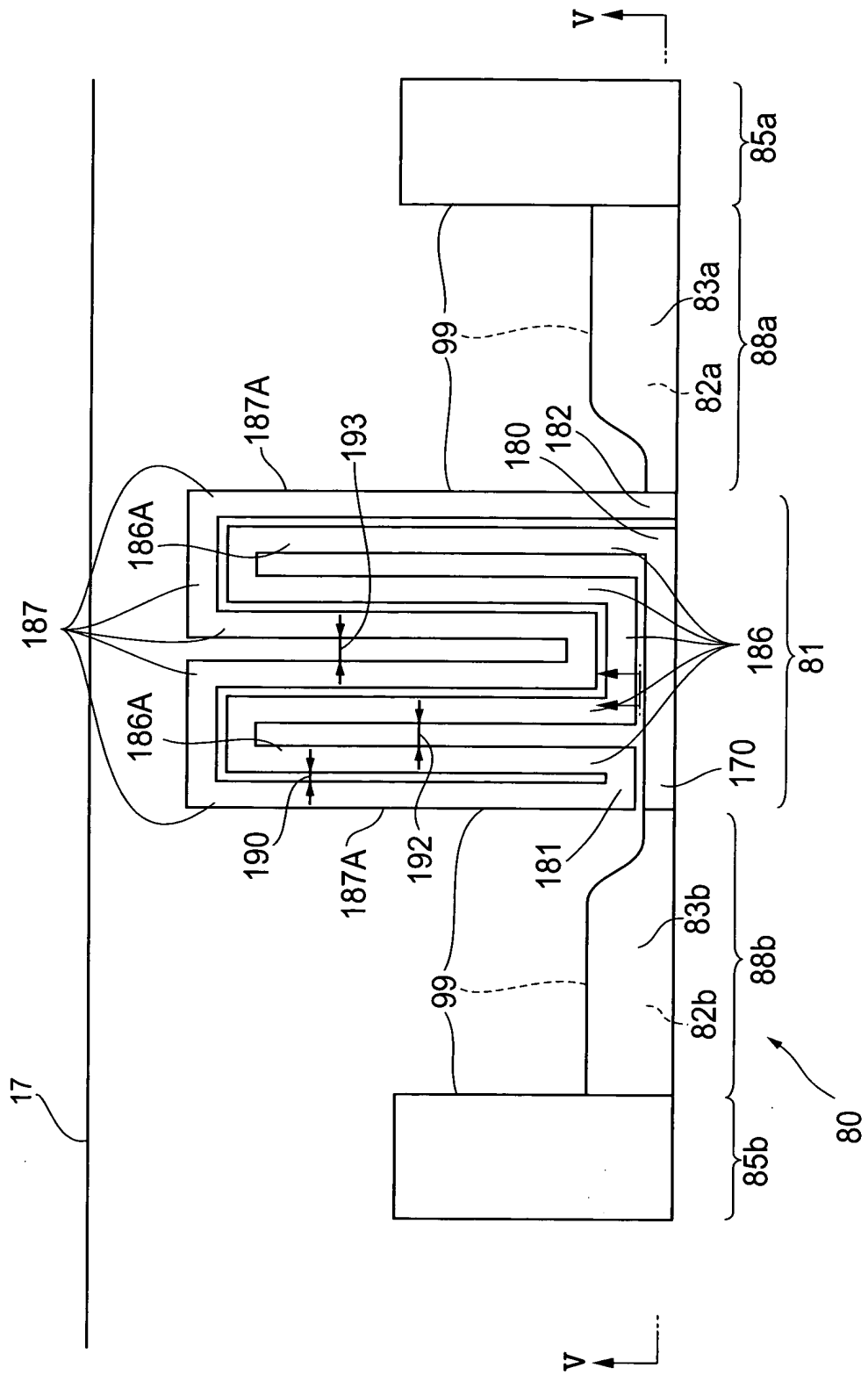
10
60
64
30
17
100
72
70
64b
64a
63
61
38
40
36
32
80
81
87a
85a
72
70
V
V
86a
84a
21
83a
82a
88a
72
39
38
36
32
113
11a

Fig.3

Fig.4


V
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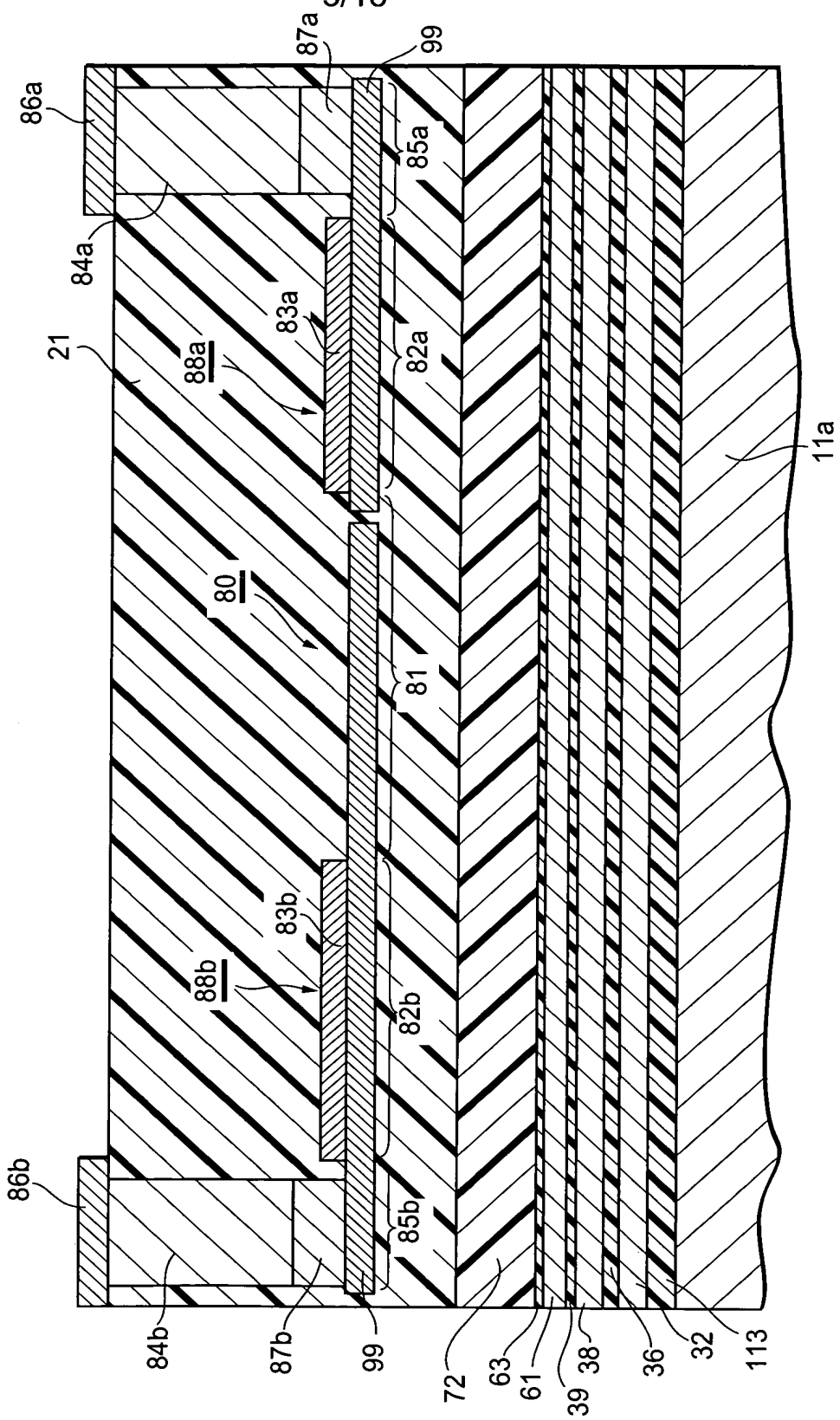
83a
88a
82a
99
187A
193
180
182
186A
187
186
81
186A
170
190
187A
192
181
83b
88b
99
82b
17
80
85b
V

Fig.5


87a
99
86a
85a
84a
83a
82a
21
88a
11a
80
81
83b
88b
82b
86b
85b
84b
87b
99
72
63
61
39
38
36
32
113

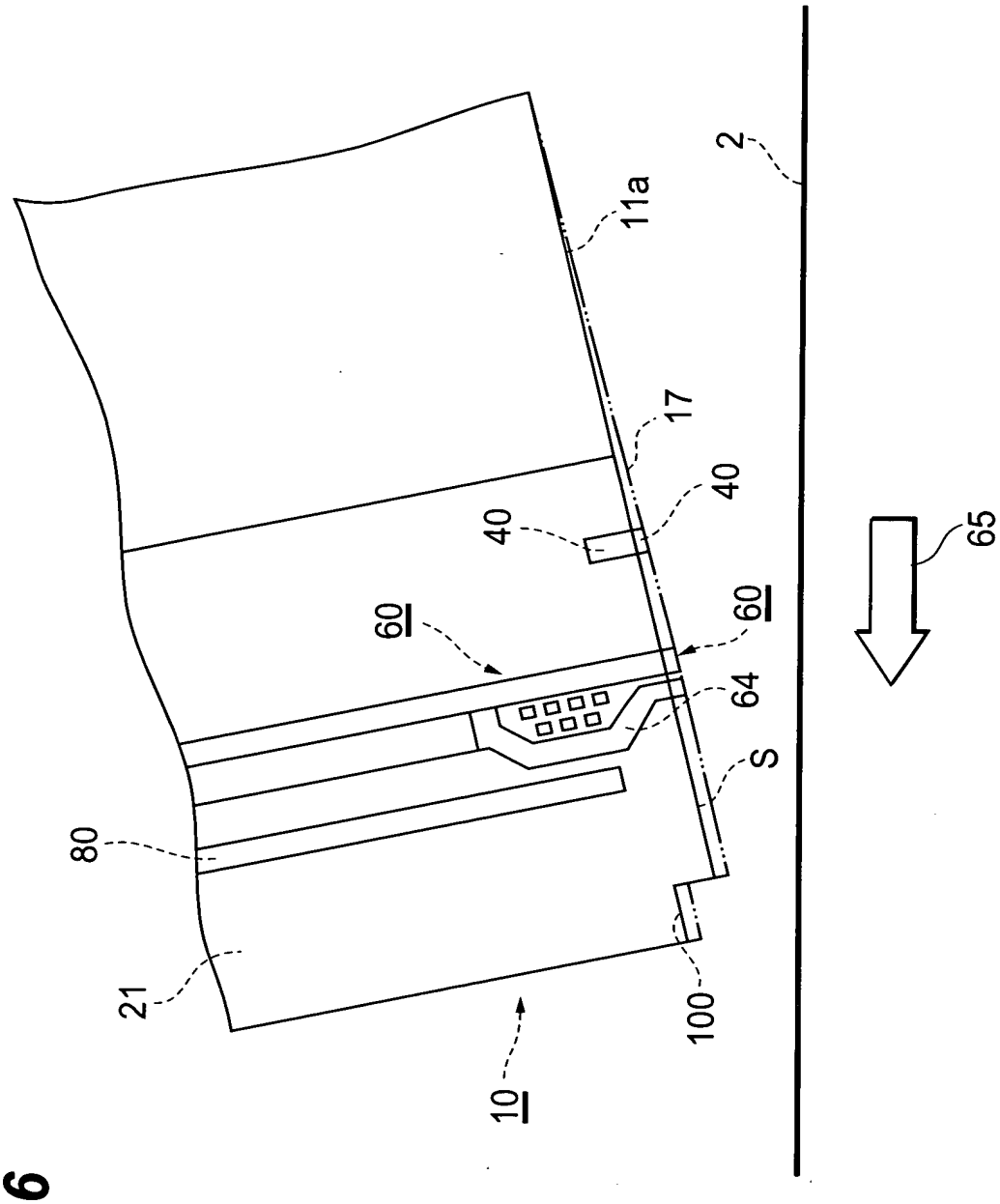


Fig.6

Fig.7

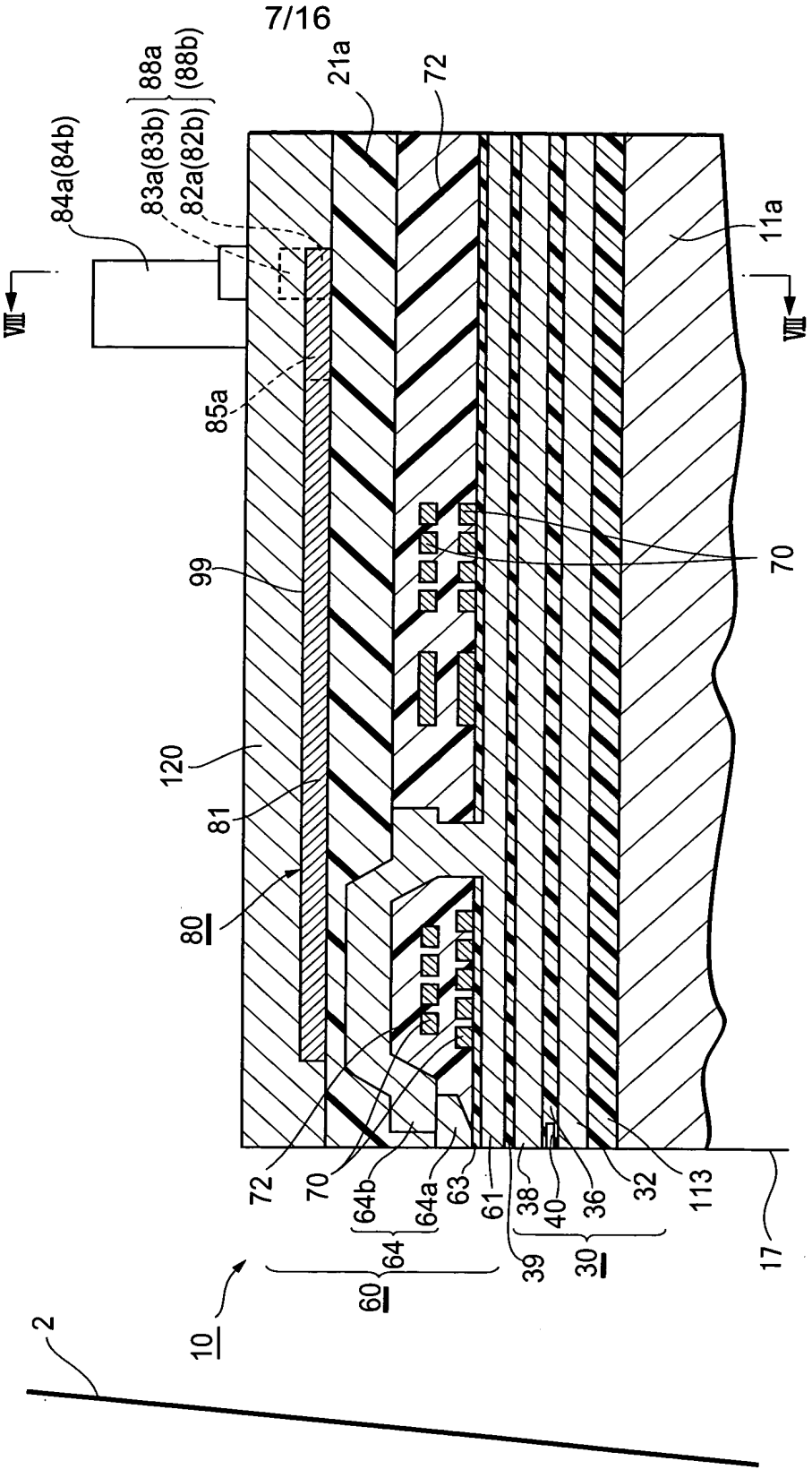
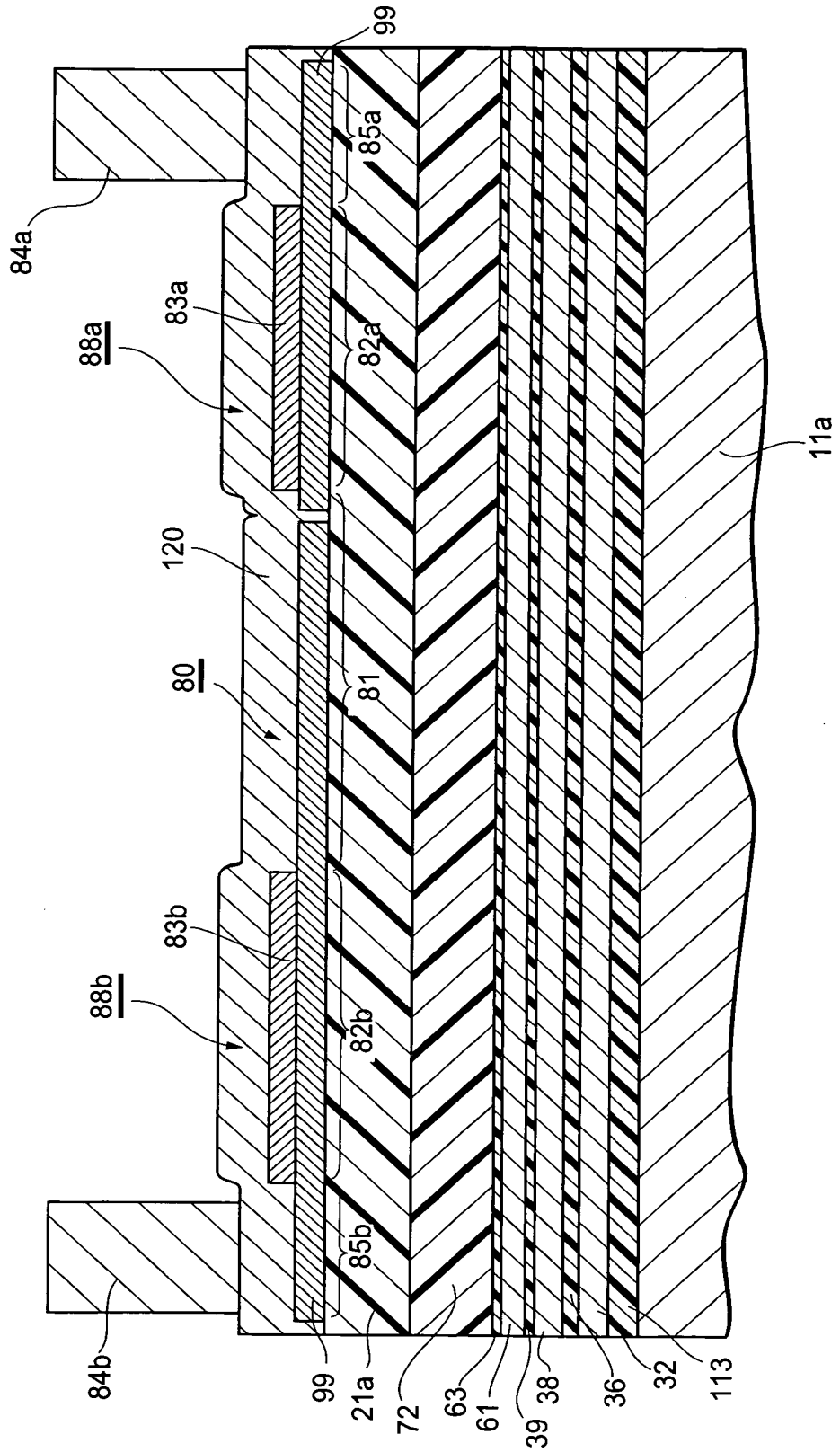

88a
(88b)
83a(83b)
82a(82b)
84a(84b)
21a
72
11a
VIII
VIII
85a
99
70
120
81
80
72
70
64b
64a
63
61
38
40
36
32
113
17
64
60
39
30
10
2

Fig.8


99
85a
84a
83a
88a
82a
11a
120
80
81
83b
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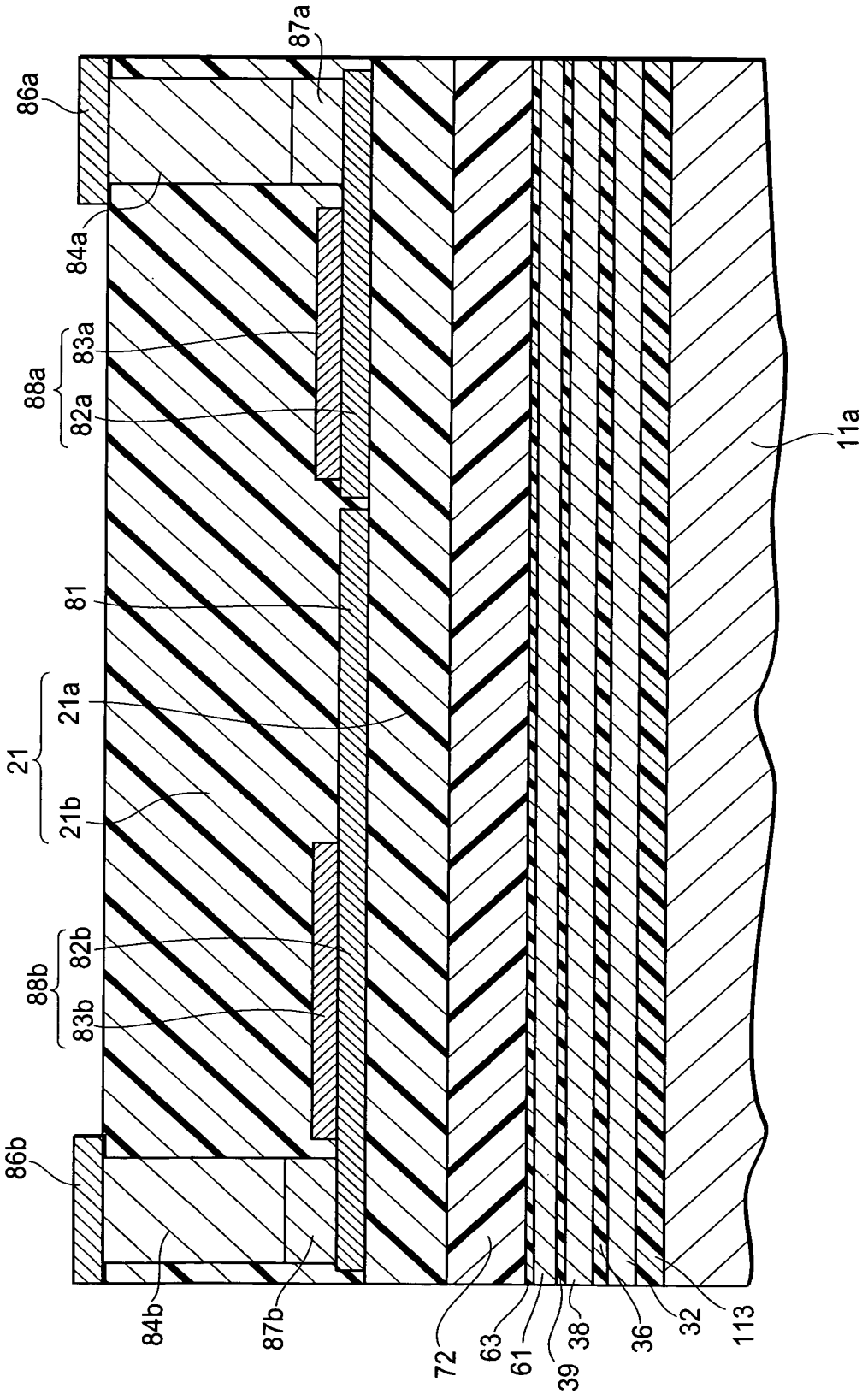
82b
85b
84b
99
21a
72
63
61
39
38
36
32
113

Fig.9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21
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87b
72
63
61
39
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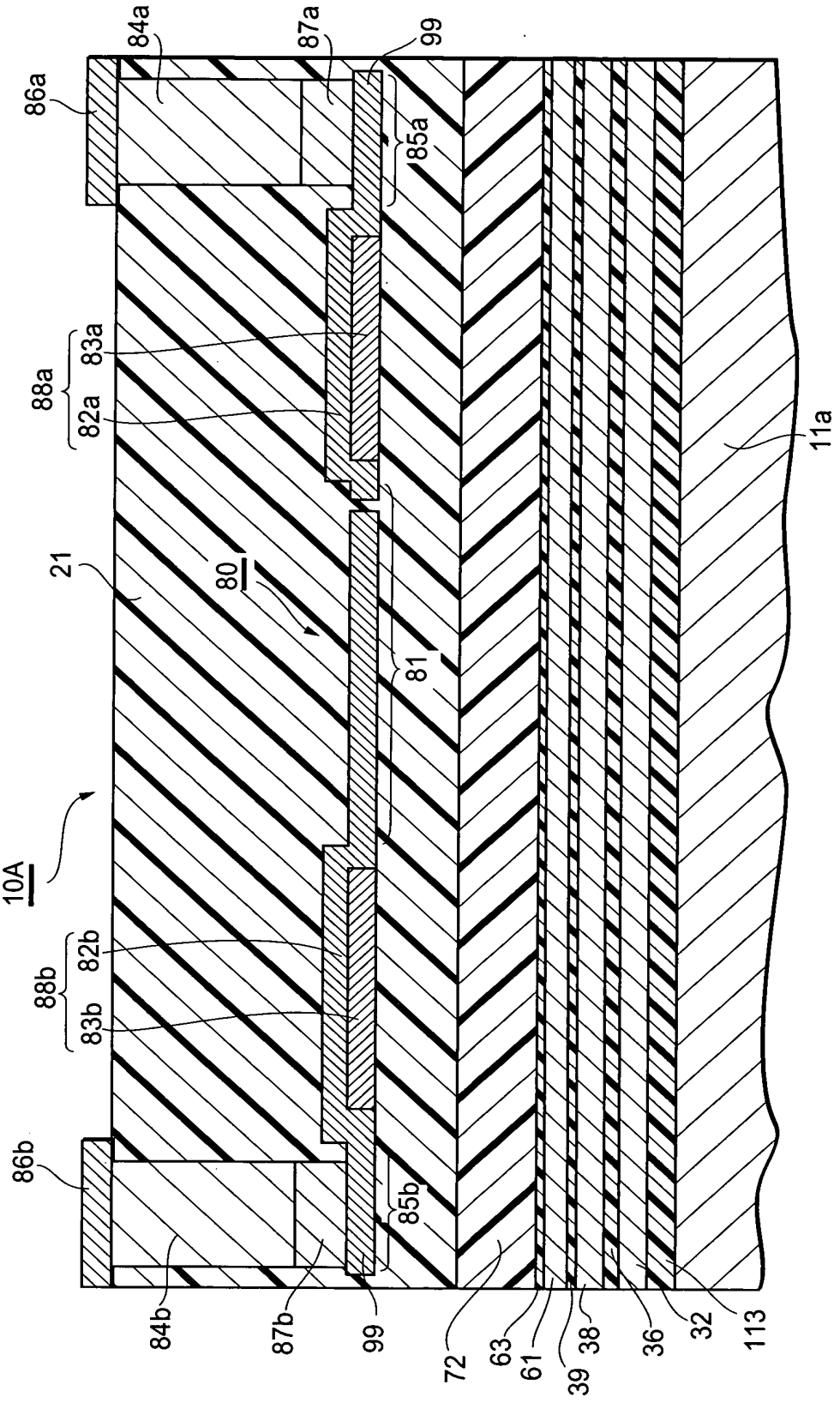
36
32
113

Fig.10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99
86a
85a
88a
83a
82a
11a
21
80
81
10A
88b
82b
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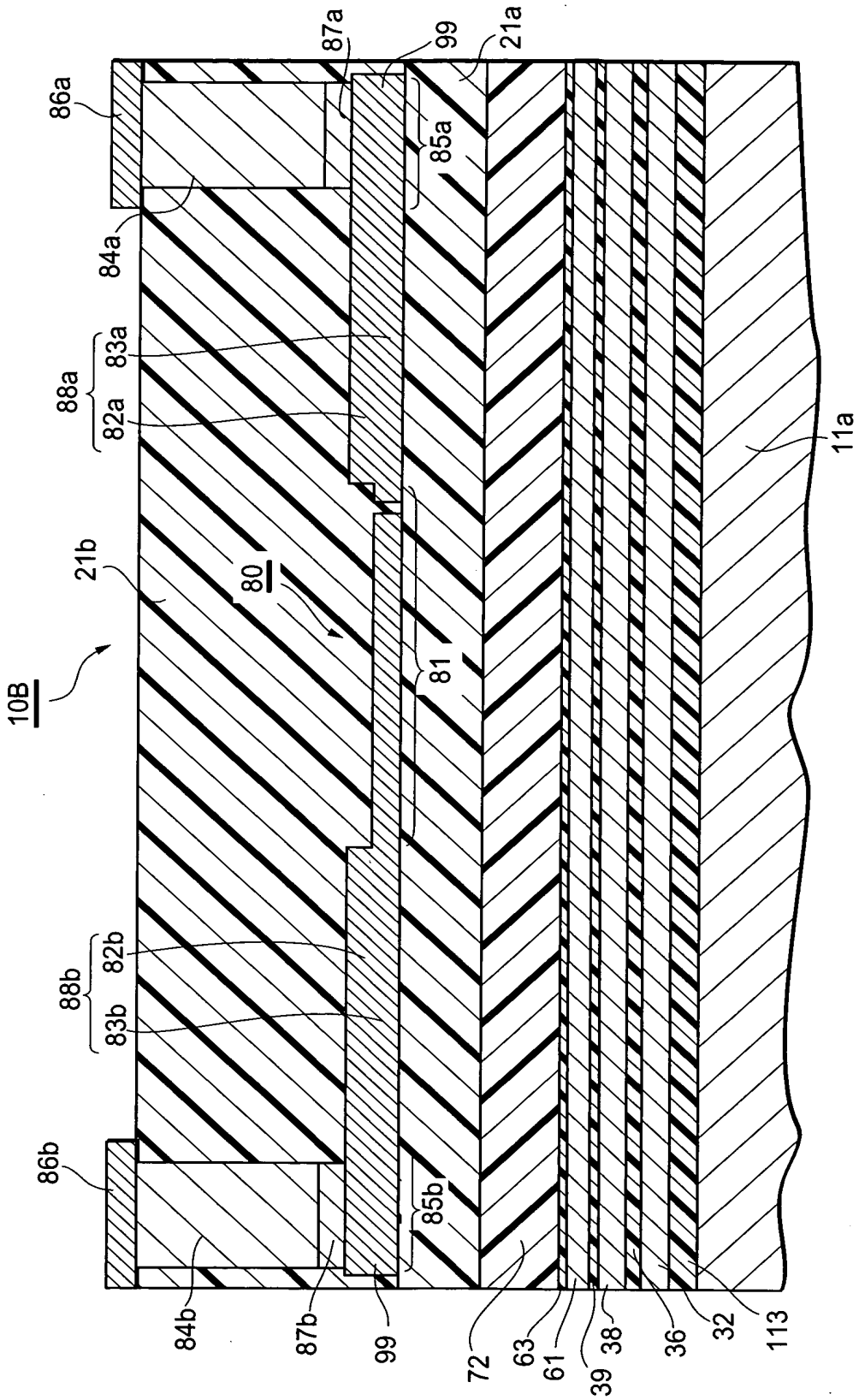
99
72
63
61
39
38
36
32
113


87a
99
21a
86a
85a
84a
88a
83a
82a
11a
21b
80
81
10B
88b
82b
83b
86b
85b
84b
87b
99
72
63
61
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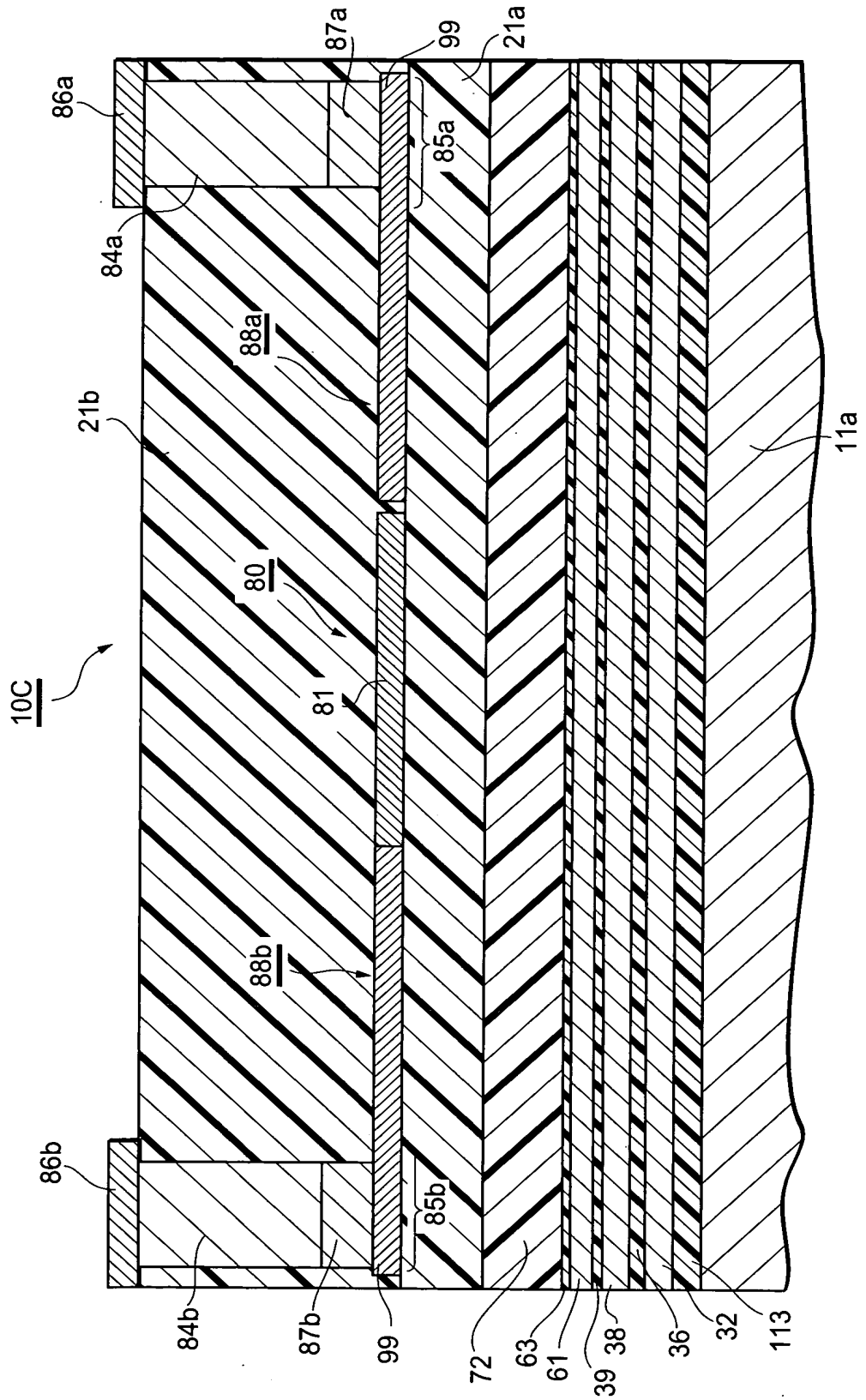
36
32
113

Fig.11


87a
99
21a
86a
85a
84a
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21b
11a
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10C
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88b
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85b
84b
87b
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32
113

Fig.12

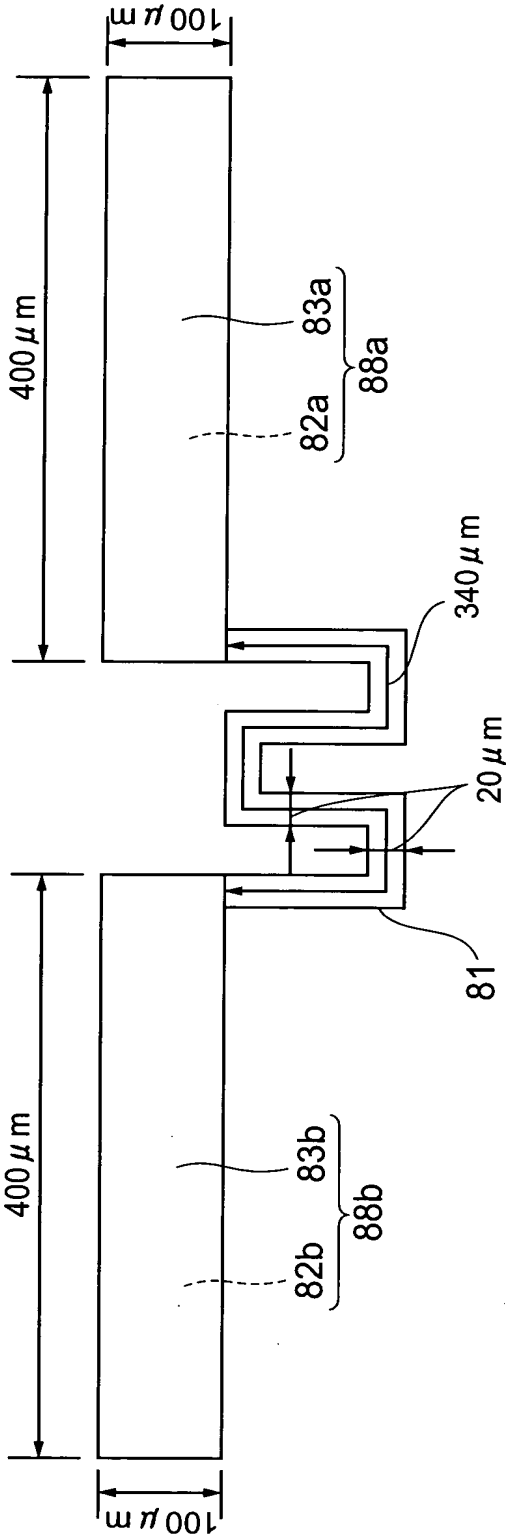

Fig.13

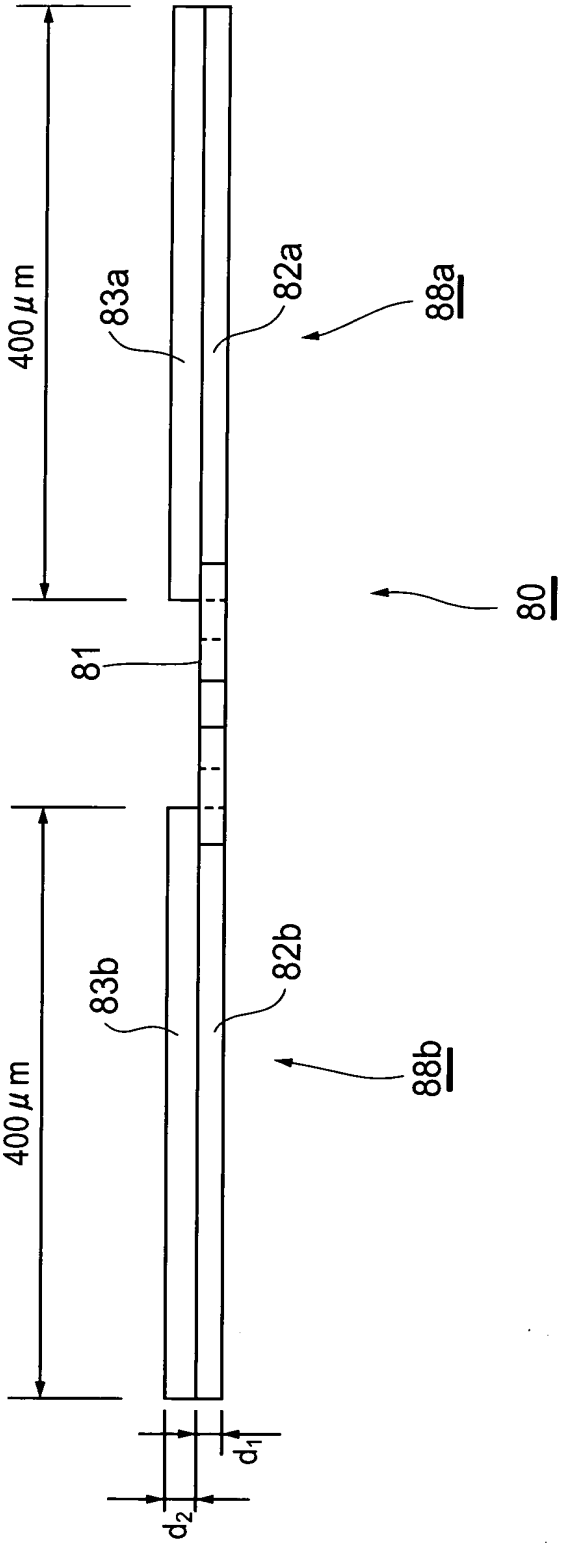

Fig.14

Fig.15

	MATERIAL FOR HP & BP	RESISTIVITY OF HP & BP: ρ1 [μΩ·cm]	THICKNESS OF HP & BP: d1 [nm]	SHEET RESISTANCE OF HP & BP: SR1 [Ω]	MATERIAL FOR ACL	RESISTIVITY OF ACL: ρ2 [μΩ·cm]	THICKNESS OF ACL: d2 [nm]	SHEET RESISTANCE OF ACL: SR2 [Ω]	SR2/SR1 [−]	SHEET RESISTANCE OF LP: SR3 [Ω]	RESISTANCE OF HP [Ω]	TOTAL RESISTANCE OF LP [Ω]	HP'S POWER CONSUMPTION / TOTAL POWER CONSUMPTION [%]
COMP. EX1	NiFe	23	150	1.53	–	–	–	–	–	1.53	26.1	12.3	68.0
EX.1	NiFe	23	150	1.53	NiFe	23.0	100	2.30	1.50	0.92	26.1	7.4	78.0
EX.2	NiFe	23	150	1.53	NiFe	23.0	200	1.15	0.75	0.66	26.1	5.3	83.2
EX.3	NiFe	23	150	1.53	CoFe	20.0	93	2.15	1.40	0.90	26.1	7.2	78.4
EX.4	NiFe	23	150	1.53	CoFe	20.0	100	2.00	1.30	0.87	26.1	6.9	79.0
EX.5	NiFe	23	150	1.53	CoFe	20.0	108.5	1.84	1.20	0.84	26.1	6.7	79.6
EX.6	NiFe	23	150	1.53	CoFe	20.0	131	1.53	1.00	0.77	26.1	6.1	81.0
EX.7	NiFe	23	150	1.53	CoFe	20.0	162	1.23	0.81	0.68	26.1	5.5	82.7
EX.8	NiFe	23	150	1.53	CoFe	20.0	200	1.00	0.65	0.61	26.1	4.8	84.3
EX.9	NiFe	23	150	1.53	Mo	16.0	100	1.60	1.04	0.78	26.1	6.3	80.6
EX.10	NiFe	23	150	1.53	Mo	16.0	173	0.92	0.60	0.58	26.1	4.6	85.0
EX.11	NiFe	23	150	1.53	Mo	16.0	200	0.80	0.52	0.53	26.1	4.2	86.1
EX.12	NiFe	23	150	1.53	Mo	16.0	255	0.63	0.41	0.45	26.1	3.6	88.0
EX.13	NiFe	23	150	1.53	Rh	17.5	100	1.75	1.14	0.82	26.1	6.5	79.9
EX.14	NiFe	23	150	1.53	Rh	17.5	200	0.88	0.57	0.56	26.1	4.5	85.4
EX.15	NiFe	23	150	1.53	Au	3.5	100	0.35	0.23	0.28	26.1	2.3	92.0
EX.16	NiFe	23	150	1.53	Au	3.5	200	0.18	0.11	0.16	26.1	1.3	95.4
EX.17	NiFe	23	150	1.53	Cu	3.0	100	0.30	0.20	0.25	26.1	2.0	92.9
EX.18	NiFe	23	150	1.53	Cu	3.0	200	0.15	0.10	0.14	26.1	1.1	96.0

HP:HEATING PART BP:BASE PART ACL:ADDITIONAL CONDUCTIVE LAYER LP:LEAD PART

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Fig.16

	MATERIAL FOR HP & BP	RESISTIVITY OF HP & BP ρ1: [μΩ·cm]	THICKNESS OF HP & BP: d1 [nm]	SHEET RESISTANCE OF HP & BP: SR1 [Ω]	MATERIAL FOR ACL	RESISTIVITY OF ACL: ρ2 [μΩ·cm]	THICKNESS OF ACL: d2 [nm]	SHEET RESISTANCE OF ACL: SR2 [Ω]	SR2/SR1 [—]	SHEET RESISTANCE OF LP: SR3 [Ω]	RESISTANCE OF HP [Ω]	TOTAL RESISTANCE OF LP [Ω]	HP'S POWER CONSUMPTION / TOTAL POWER CONSUMPTION [%]
COMP. EX.2	CoFe	20	150	1.33	—	—	—	—	—	1.33	22.7	10.7	68.0
EX.19	CoFe	20	150	1.33	CoFe	20.0	100	2.00	1.50	0.80	22.7	6.4	78.0
EX.20	CoFe	20	150	1.33	Rh	17.5	100	1.75	1.31	0.76	22.7	6.1	78.9
EX.21	CoFe	20	150	1.33	Mo	16.0	100	1.60	1.20	0.73	22.7	5.8	79.6
EX.22	CoFe	20	150	1.33	Au	3.5	100	0.35	0.26	0.28	22.7	2.2	91.1
EX.23	CoFe	20	150	1.33	Cu	3.0	100	0.30	0.23	0.24	22.7	2.0	92.0

HP:HEATING PART BP:BASE PART ACL:ADDITIONAL CONDUCTIVE LAYER LP:LEAD PART

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